

Title (en)
MEASUREMENTS USING TUNNELLING CURRENT BETWEEN ELONGATE CONDUCTORS

Title (de)
MESSUNGEN ZWISCHEN LANGGESTRECKTEN LEITERN UNTER VERWENDUNG DES TUNNELSTROMS

Title (fr)
MESURES EFFECTUEES A L'AIDE D'UN COURANT DE PENETRATION PAR EFFET TUNNEL ENTRE DES CONDUCTEURS ALLONGES

Publication
EP 1135665 A4 20020619 (EN)

Application
EP 99947096 A 19990907

Priority

- AU 9900733 W 19990907
- AU PP570298 A 19980907
- AU PP770998 A 19981214

Abstract (en)
[origin: WO0014476A1] Apparatus for use in measuring and/or monitoring the relative position or displacement of two elements, includes a pair of elongate electrical conductors (10, 11) adapted to be associated with the respective elements, and means (12, 13, 18) for disposing the conductors at a mutual separation such that a detectable quantum tunnelling current may be generated between them on application of an electrical potential difference between the conductors.

IPC 1-7
B81B 3/00; **B81B 5/00**; **G01B 7/30**; **G01B 7/00**; **G01D 5/14**; **G01P 15/08**; **G01P 3/46**

IPC 8 full level
G01B 7/30 (2006.01); **B81B 3/00** (2006.01); **B81B 5/00** (2006.01); **G01B 7/00** (2006.01); **G01D 5/14** (2006.01); **G01P 3/46** (2006.01); **G01P 15/08** (2006.01); **G01Q 60/10** (2010.01); **G01R 27/08** (2006.01); **G01R 31/08** (2006.01)

IPC 8 main group level
G01B (2006.01)

CPC (source: EP KR US)
B82Y 15/00 (2013.01 - EP US); **G01B 7/00** (2013.01 - KR); **G01B 7/14** (2013.01 - EP US); **B82Y 15/00** (2013.01 - KR)

Citation (search report)

- [X] EP 0262253 A1 19880406 - IBM [US]
- [A] US 5418771 A 19950523 - KASANUKI YUJI [JP], et al
- [X] "MICROSENSORS GET TUNNELLING", DESIGN ENGINEERING, MORGAN-GRAMPIAN LTD. LONDON, GB, 1 November 1997 (1997-11-01), pages 13, XP000727480, ISSN: 0308-8448
- [A] ROUTKEVITCH D ET AL: "NONLITHOGRAPHIC NANO-WIRE ARRAYS: FABRICATION, PHYSICS, AND DEVICE APPLICATIONS", IEEE TRANSACTIONS ON ELECTRON DEVICES, IEEE INC. NEW YORK, US, vol. 43, no. 10, 1 October 1996 (1996-10-01), pages 1646 - 1658, XP002072446, ISSN: 0018-9383
- [A] GEVATTER H-J ET AL: "DIE DIFFERENTIAL-TUNNELSTRECKE ALS HOCHAUFLOSENDER LAGEABWEICHUNGSSENSOR DIFFERENTIAL-TUNNELING PROBE AS A SENSITIVE DISPLACEMENT SENSOR", F & M. FEINWERKTECHNIK MIKROTECHNIK MESSTECHNIK, CARL HANSER GMBH, MUNCHEN, DE, vol. 100, no. 12, 1 December 1992 (1992-12-01), pages 571 - 573, XP000327471, ISSN: 0944-1018
- See references of WO 0014476A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 0014476 A1 20000316; AT E473942 T1 20100715; BR 9913502 A 20011204; CA 2343261 A1 20000316; CA 2343261 C 20071127; CN 100437017 C 20081126; CN 1249398 C 20060405; CN 1317083 A 20011010; CN 1673665 A 20050928; DE 69942585 D1 20100826; EP 1135665 A1 20010926; EP 1135665 A4 20020619; EP 1135665 B1 20100714; IL 141890 A0 20020310; IL 141890 A 20060820; JP 2002524725 A 20020806; JP 2010060562 A 20100318; JP 4757937 B2 20110824; KR 20010073134 A 20010731; RU 2224978 C2 20040227; US 6707308 B1 20040316

DOCDB simple family (application)
AU 9900733 W 19990907; AT 99947096 T 19990907; BR 9913502 A 19990907; CA 2343261 A 19990907; CN 200410100086 A 19990907; CN 99810665 A 19990907; DE 69942585 T 19990907; EP 99947096 A 19990907; IL 14189001 A 20010307; IL 14189099 A 19990907; JP 2000569178 A 19990907; JP 2009212005 A 20090914; KR 20017002955 A 20010307; RU 2001110083 A 19990907; US 78664101 A 20010416